

AMENDMENTS TO THE SPECIFICATION:

Page 5, lines 13-16, please replace as follows:

The invention of ~~claim 2~~ is a vehicle-mounted communication device according to ~~claim 1~~ as described above, wherein the relay means relays the output information encrypted by the IC card to the transmitting/receiving means.

Page 5, lines 17-24, please replace as follows:

The invention of ~~claim 3~~ is a vehicle-mounted communicated device according to ~~claim 1 or claim 2~~ as described above, further comprising encryption information storage means in which the encryption information is temporarily stored, wherein the transmitting/receiving means stores the encryption information in the encryption information storage means and transmits as is the encryption information stored in the encryption information storage means.

Page 6, lines 1-7, please replace as follows:

The invention of ~~claim 4~~ is a vehicle-mounted communication device according to ~~any one of claims 1 to 3~~ as described above, wherein at least one of the IC card and the road-side communication means outputs a portion of the output information in a state without encryption and information display means for

displaying the portion of the output information outputted without being encrypted is further provided.

Page 6, lines 8-16, please replace as follows:

The invention of ~~claim 5~~ is a road-to-vehicle communication device comprising: a vehicle-mounted communication device ~~according to any one of claims 1 to 4~~ as described above, and road-side control means being located at a road side, including road-side communication means and provided for intercommunication of information with the vehicle-mounted communication device, and also including road-side encryption means for encrypting transmitted information and decoding receiving information.

Page 6, lines 17-23, please replace as follows:

The invention of ~~claim 6~~ is a road-to-vehicle communication device ~~according to claim 5~~ as described above, wherein road-side encryption means of the road-side control means installed at an entrance gate effects encryption of transmitted information and road-side encryption means of the road-side control means installed at a toll reception gate effects only decoding of receiving information.

Page 6, line 24 to page 7, line 2, please replace as follows:

The invention of ~~claim 7~~ is a road-to-vehicle communication device ~~according to claim 5 or claim 6~~ as described above, wherein the transmitted information is accounting information regarding accounting processing of charged facilities.

Page 7, line 3 to page 8, line 2, please replace as follows:

The invention of ~~claim 8~~ is a road-to-vehicle communication device comprising: road-side control means being located at a road side, including road-side communication means and provided for intercommunication of information with vehicle-mounted communication means, and also including first encryption means for encrypting transmitted information, and decoding received information with a first electronic key; information control means including information transfer means which stores therein user information regarding at least one of a vehicle and a user and through which information is mutually transferred with respect to the vehicle-mounted communication means, and also including second encryption means for encrypting output information, and decoding input information with a second electronic key; and vehicle-mounted control means being installed on a vehicle side, including vehicle-mounted communication means provided for intercommunication of information with respect to the road-side communication device and for mutual transfer of information with respect to the information control means, and also including third encryption means which, during the communication of information, encrypts transmitted

information and decodes received information with the first electronic key, and which during the transfer of information, encrypts output information and decodes input information with the second electronic key.

Page 8, lines 3-8, please replace as follows:

The invention of ~~claim 9~~ is a road-to-vehicle communication device according to ~~claim 8~~ as described above, wherein each group of the first encryption means and the road-side communication means, the second encryption means and the information transfer means, and the third encryption means and the vehicle-mounted communication means are provided on the same substrate.

Page 8, lines 9-25, please replace as follows:

At the vehicle-mounted communication device ~~of the invention of claim 1~~ intercommunication of information is carried out with respect to the road-side communication means located at the road side, with the transmitting/receiving means. The IC card is attachable and detachable at the vehicle-mounted communication device and stores in the storage means the user information regarding the balance of charges. The encryption means encrypts output information based on the user information and then outputs. The encryption means also decodes the encrypted input information regarding the user information. Among

the information received from the road side by the transmitting/receiving means, the encryption information is relayed to the IC card by the relay means. Accordingly, the encryption information passes through a vehicle-mounted communication device in a form of being left unchanged, and thus, the secrecy of the encryption information is maintained and the security thereof is protected.

Page 9, lines 1-7, please replace as follows:

As described in ~~claim 2~~ above, the above-described relay means relays the output information encrypted by the IC card to the transmitting/receiving means, so as to transmit the output information based on the encrypted user information from the IC card to the road ~~[[said]]~~ side in a form of being left unchanged. As a result, the secrecy of the output information can be maintained and the security thereof can be protected.

Page 9, lines 8-22, please replace as follows:

As described in ~~claim 3~~ above, the vehicle-mounted communication device can further include the encryption information storage means in which encryption information is temporarily stored. The encryption information storage means stores therein encryption information with the transmitting/receiving means. Further, the stored encryption information is transmitted as is by the transmitting/receiving

means. As a result, the encryption information from the road ~~[[said]]~~ side, which is unrelated to the user information stored in the IC card and is desired to retained, for example, gate information which indicates an entrance gate, a mid-route, and the like, can be held in a form of being left unchanged and can also be transmitted to the road side. Accordingly, the secrecy of the information from the road side can be maintained and the security thereof can be protected.

Page 9, line 23 to page 10, line 4, please replace as follows:

Further, as described ~~in claim 4~~ above, the information display means is further provided which outputs the portion of output information desired to be made known to a user without encryption by the IC card and displays the portion of the output information outputted without being encrypted, thereby resulting in that the user can confirm completion of communication or details that are results of accounting processing.

Page 10, lines 5-21, please replace as follows:

As described ~~in claim 5~~ above, in the road-to-vehicle communication device of the present invention, the IC card is mounted in the vehicle-mounted communication device and information is mutually communicated with respect to the road-side control means located at the road side. The road-side encryption means of the road-

side control means encrypts transmitted information and decodes received information. Accordingly, transmitted information to be transmitted from the road side passes through the vehicle-mounted communication device in a form of being encrypted. As described in ~~claim 7~~ above as well, processing such as reception of charges can be effected for the IC card in such a manner that accounting information regarding accounting processing of charged facilities is transmitted and received as the transmitted information, and the resulting information also passes through the vehicle-mounted communication device in the form of being encrypted, thereby resulting in no damage to the secrecy of the information.

Page 10, line 22 to page 11, line 6, please replace as follows:

As described in ~~claim 6~~ above, the road-to-vehicle communication device encrypts transmitted information with the road-side encryption means of the road-side control means located at an entrance gate and decodes received information by the road-side encryption means of the road-side control means located at a toll reception gate. As a result, the vehicle-mounted communication device does not have encryption means, and therefore, irregularities in charge payment caused by analysis of a cipher of the vehicle-mounted communication device can be made impossible.

Page 11, lines 7-14, please replace as follows:

Further, according to the invention of ~~claim 8~~, information is mutually communicated between the road-side communication means of the road-side control means and the vehicle-mounted communication means of the vehicle-mounted control means. Further, information is mutually transferred between the vehicle-mounted communication means of the vehicle-mounted control means and the information transfer means of the information control means.

Page 13, lines 1-11, please replace as follows:

The above-described first, second and third encryption means are each that which maintains secrecy, and therefore, so long as these encryption means are each made clear, the secrecy can be made clear. Accordingly, as described in ~~claim 9~~ above as well, by providing each of the first encryption means and the road-side communication means, the second encryption means and the information transfer means, and the third encryption means and the vehicle-mounted communication means on the same substrate, on the same chip, for example, decoding such as analysis becomes difficult and the security of the road-to-vehicle communication device can be improved.